

REMARKS

Entry of the foregoing amendments, and reexamination and reconsideration of the subject application, pursuant to and consistent with 37 C.F.R. §1.104 and §1.112, and in light of the following remarks, are respectfully requested.

Claims 1, 4, and 7 have been amended; Claims 12-17 have been added; and consequently, Claims 1-17 are now present in this application.

Attached hereto is a marked version of the amended claims to show changes made by the current amendment. The attached page is captioned **"VERSION WITH MARKINGS TO SHOW CHANGES"**

Claims 1-4 and 7-9 have been rejected under 35 U.S.C. §102(b) as being anticipated by JPA9-83033 (Japan ('033)), which rejection is respectfully traversed. Claim 1, as amended, recites a pair of first electrodes formed on both side surfaces of an approximate half of the transformer body in its longitudinal direction, and at least one pair of second electrodes formed on both side surfaces of the other approximate half of the transformer body in its longitudinal direction. Claim 1 further requires that the second electrodes are provided with terminals, respectively, with each of the terminals being connected to the circuit board.

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As described at least on page 10, lines 5-18, of the specification, the vibration of the piezoelectric transformer is symmetrical in the longitudinal direction so that the sound pressure of audible sound can be reduced. In addition, the output portion 19 has two electrical connections at each part, i.e., the high-potential lead wires 107 and 45, the low-potential lead wires 43 and 105, and the low-potential lead wires 47 and 109. Therefore, even if any trouble occurs at one of the electrical connections, the electrical characteristics of the piezoelectric transformer will not change. Furthermore, in connection with the characteristics of the piezoelectric transformer element in the modified Rosen type piezoelectric transformer element of this invention, the audible sound can be reduced by approximately 8dB, no degradation is observed in electrical characteristics such as a step-up ratio and heat generation, and the reliability is improved. Accordingly, Japan ('033) neither teaches nor suggests these features or advantages, nor the features of dependent claims 2-4 and 7-9.

Claims 5 and 6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kanayama, Yamamoto, or Sato in view of JPA9-83033 (Japan ('033)), JPA 9-298327 (Japan ('327)), or Applicant's PRIOR ART FIG. 1, which rejection is respectfully traversed. As discussed above the prior art of record fails to teach or make obvious, alone or in combination

thereof, the elements recited in claim 1, as amended. As claims 5 and 6 depend from claim 1, the same holds true for them.

Claims 10 and 11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over each of Inoi, Sakurai, or Shimizu, which rejection is respectfully traversed. Claims 10 and 11 both specifically recite a fixing member located within each of the areas occupying 1/5th of the full length of the transformer from both ends and formed in a spot-like or a linear fashion.

Contrary to the Examiner's assertion, the specific mounting location is not simply a matter of design choice based on routine experimentation. As described at least on page 13 of the specification, the piezoelectric transformer exhibits no substantial change in heat generation, current consumption, and the waveform of the vibration rate in the longitudinal direction, as compared with existing products. It is also understood that, as compared with existing products, vibration in each of the width and the thickness directions is suppressed and the level of audible sound is reduced. Accordingly, if the specific mounting location is simply a matter of optimization of a known device through routine experimentation, then one would think that in the 10 to 20 years since the public disclosure of the above references such would be known, which would negate the need for a rejection based on obviousness.

Additionally, the rejection is arbitrarily dismissing claimed structural limitations without any evidence to support the rejection. The rejection has failed to establish a prima facie case of obviousness by the failure to produce prior art. Section 1.104 of the Rules requires the examiner to cite the best references at his/her command and to be complete in explaining rejections other than those related to form. As the rejection uses each reference singly, the use of a single reference to show obviousness is improper: there must be some evidence from the reference or other objective source, or evidence provided through an affidavit from the examiner, to illuminate why the *differences* between the claimed invention and the cited art would have been obvious. *In re Laskowski*, 10 USPQ2d 1397 (Fed. Cir. 1989); *In re Grabiak*, 226 USPQ 870, 872 (Fed. Cir. 1984); 37 C.F.R. §1.104(C)(2) and §1.104(d)(2). That knowledge may have been within the province of the ordinary artisan does not in and of itself make it so, absent clear and convincing evidence of such knowledge. See *C.R. Bard, Inc. v. M3 Sys., Inc.*, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998), *cert. den.* 1998 S. Ct. 1804 (1999); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 297-98, 227 USPQ 657, 667 (Fed. Cir. 1985). The range of sources available for evidence of a suggestion, teaching, or motivation to modify a reference, whether from the prior art references themselves, one of ordinary skill, or from the nature of the problem, does not diminish the requirement for presenting actual evidence; and the actual evidence must be clear and particular. *C.R. Bard; In re Dembiczak*,

50 USPQ2D 1614, 1617 (Fed. Cir. 1999). Therefore, unless the showing on which the rejection is based is clear and particular, the suggestion to modify the reference would appear to be hindsight reconstruction based on the rejected claim. *W.L. Gore and Assoc., Inc. v. Garlock, Inc.*, 220 USPQ 303, 312-13 (Fed. Cir. 1983), *cert. den.*, 469 U.S. 851 (1984).

Accordingly, Inoi, Sakurai, or Shimizu neither teach nor suggest these features either alone or the combination thereof, nor the features of dependent claims 12-17.

In light of the foregoing, the application is now believed to be in proper form for allowance of all claims and notice to that effect is earnestly solicited. Reconsideration and allowance of the claims is respectfully solicited.

**CERTIFICATE OF MAILING OR
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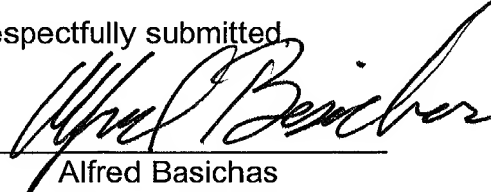
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DATE: September 27 '01

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amended original claims.

VERSION WITH MARKINGS TO SHOW CHANGES

1. (Amended) A piezoelectric transformer comprising a piezoelectric transformer body including a piezoelectric ceramics rectangular plate, a pair of first electrodes formed on [at least one of top/bottom surfaces and] both side surfaces of an approximate half of the transformer body in its longitudinal direction, and at least one pair of second [electrode] electrodes formed on [at least one of] both side surfaces [and an end surface] of the other approximate half of the transformer body in its longitudinal direction, wherein the piezoelectric transformer is mounted on a circuit board with a power supply circuit component mounted thereon to drive the piezoelectric transformer, the second [electrode] electrodes being provided with [a plurality of] terminals, respectively, each of [which is] the terminals being connected to said circuit board.

4. (Amended) A piezoelectric transformer as claimed in claim 3, wherein said piezoelectric transformer body comprises said layered structure, said first electrodes being formed on the opposite side surfaces of said layered structure and being connected to said internal electrodes, said second [electrode] electrodes being [comprising at least one pair of electrodes which are] formed on the side surfaces in areas different from those of said first electrodes of said layered structure and which are kept at a same potential and connected to said circuit board.

7. (Amended) A piezoelectric transformer as claimed in claim [3] 14, wherein said second electrode comprises a single output electrode formed at one end of said piezoelectric transformer body, said output electrode being provided with two terminals, said two terminals being electrically connected to said circuit board.